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| 10/003,840      | 11/01/2001  | James R. Milch       | 83576THC            | 6289             |

7590 07/17/2003  
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EXAMINER

CHEN, PO WEI

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2697

DATE MAILED: 07/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/003,840

Applicant(s)

MILCH ET AL.

Examiner

Po-Wei (Dennis) Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

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### DETAILED ACTION

Claims 1-46 are pending in this application. Claim 1 and 23 is/are independent claim(s). This action is non-final

The present title of the invention is "Method for Reducing the Power Used by Emissive Display Device".

The Group Art Unit of the Examiner case is now 2697. Please use the proper Art Unit number to help us serve you better.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 7-8, 15, 20, 23-24, 26, 29-30, 37 and 42 are rejected under 35

U.S.C. 102(b) as being anticipated by Reinhardt (US 5,598,565).

3. Regarding claim 1, Reinhardt discloses a method for screen power saving comprising:

A method for reducing the power used by a display device having light emitting pixels (see lines 37-47 of column 1);

a) receiving formatted information for presentation on the display device (see 12-21 of column 5 and Fig. 3a). While claim recites receiving formatted information, it is clear in the example disclosed by Reinhardt, the formatted image is received by the display device in order for it to be displayed;

b) modifying the format of the formatted information to reduce the number and/or

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intensity of bright pixels in a display of the formatted information (see lines 10-14 of column 4 and lines 22-32 of column 5 and Fig. 3a). While claim recites reduce the number and/or intensity of bright pixels, it is clear that the power management system is capable of controlling amount of power to each individual pixel. Therefore, by removing or reduce the amount of power to pixels will reduce the number and/or intensity of bright pixels;

c) rendering the modified formatted information; d) displaying the rendered modified formatted information on the display device (see lines 25-30 of column 5 and Fig. 3a);

4. Regarding claim 2, Reinhardt discloses a method for screen power saving comprising:

The display device is a portable emissive flat-panel display (see lines 37-47 of column 1).

5. Regarding claim 4, Reinhardt discloses a method for screen power saving comprising:

The information includes text formatted with characters presented on a background (see lines 20-37 of column 6 and Fig. 4a).

6. Regarding claim 7 and 8, Reinhardt discloses a method for screen power saving comprising:

The format modification includes modifying the brightness of the text background and the brightness of the text (see lines 20-37 of column 6 and Fig. 4a). It is clear that by increasing power in the selected area (a set of important pixels) and reducing power for the remaining pixels, text and background will have different brightness depending on the location of the selected area.

7. Regarding claim 15, Reinhardt discloses a method for screen power saving comprising:

The information includes one or more graphic elements (lines 3-5 of abstract).

8. Regarding claim 16, Reinhardt discloses a method for screen power saving comprising:

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The format modification includes modifying the brightness of the one or more of the graphic elements (lines 3-5 of abstract; reducing power will change the brightness of the pixels).

9. Regarding claim 20, Reinhardt discloses a method for screen power saving comprising:

The format modification is user selectable (see lines 24-28 of column 5 and Fig. 4a).

10. Regarding claims 23-24, 26, 29-30, 37 and 42, statements presented above, with respect to claims 1-2, 4, 7-8, 15 and 20 are incorporated herein.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Yamazaki et al. (US 2002/018060; refer to as Yamazaki herein).

13. Regarding claim 3, Reinhardt does not disclose the display device is an OLED display device. However, this is known in the art taught by Yamazaki. Yamazaki teaches a display device that utilize a OLED display (see paragraph 0004). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the teaching of Yamazaki to provide the advantage of reducing power consumed by the display (see abstract of Yamazaki), which is the same functionality as Reinhardt disclosed.

14. Regarding claim 25, statements presented above, with respect to claim 3 are incorporated herein.

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15. Claims 5-6 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Oshima et al. (US 6,535,985; refer to as Oshima herein).

16. Regarding claim 5, Reinhardt discloses a method for screen power saving comprising:

The format includes dark text on a light background (see Fig. 4a). Reinhardt does not disclose format modification is the reversal of the brightness of the text and the background. However, this is known in the art taught by Oshima. Oshima teaches a data processing with a display for power consumption reduction that “when a key data input is given, a corresponding character is displayed in the reverse color as shown in FIG. 14-b” (see lines 47-49 and lines 61-64 of column 13 and Fig. 11b and 14a-h). While claim recites reversal of brightness, it is clear that by reversing the white/black of the displayed characters will reverse the brightness of the text and its background. It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the teaching of Oshima to provide the advantage of reducing energy consumption, which is the same functionality as Reinhardt disclosed.

17. Regarding claim 6, it is noted that Reinhardt does not disclose the format modification is the reversal of the color of the text and the background. However, this is known in the art taught by Oshima. Oshima teaches a data processing with a display for power consumption reduction that “when a key data input is given, a corresponding character is displayed in the reverse color as shown in FIG. 14-b” (see lines 61-64 of column 13 and Fig. 11b and 14a-h).

18. Regarding claims 27-28, statements presented above, with respect to claims 5-6 are incorporated herein.

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19. Claims 9, 11, 17, 31, 33 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Yamazuki et al. (US 20020018060; refer to as Yamazuki herein).

20. Regarding claim 9, Reinhardt discloses a method for screen power saving comprising:

The display is a color display (lines 6-9 of column 4).

Reinhardt does not disclose display of some colors consumes less power than the display of other colors and the format modification includes modifying the color of the text background. Yamazaki teaches a display device that “by displaying white color characters in a black color background, the display portion 2604 can suppress the power consumption of the portable telephone (paragraph 0240 of page 15). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Yamazaki to provide a picture of vivid colors maintaining a good balance with less consumption of power used (paragraph 0032 and 0039).

21. Regarding claim 11, statements presented above, with respect to claim 9 are incorporated herein.

22. Regarding claim 17, statements presented above, with respect to claim 6 are incorporated herein. Also see Fig. 14a of Yamazaki.

23. Regarding claims 31, 33 and 39, statements presented above, with respect to claims 9, 11 and 17 are incorporated herein.

24. Claims 10 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Yamazuki et al. (US 20020018060; refer to as Yamazuki herein) and Oshima et al. (US 6,535,985; refer to as Oshima herein).

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25. Regarding claim 10, statements presented above, with respect to claim 6 are incorporated herein.

26. Regarding claim 32, statements presented above, with respect to claim 10 are incorporated herein.

27. Claims 12, 14, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Paolini et al. (US 20020196257; refer to as Paolini herein).

28. Regarding claim 12, it is noted that Reinhardt does not disclose the format modification includes modifying the thickness of the text characters. Paolini teaches a method for text creation that modifies the thickness of the text characters (see paragraph 0041 and Fig. 1; bolding a text character will change the thickness of the character). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Paolini to provide the user the text with good legibility.

29. Regarding claim 14, it is noted that Reinhardt does not disclose the format modification includes changing dark normal text on a light background to bold text. Paolini teaches a method for text creation that modifies the thickness of the text characters (see paragraph 0041 and Fig. 1). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Paolini to provide the user the text with good legibility.

30. Regarding claims 34 and 36, statements presented above, with respect to claims 12 and 14 are incorporated herein.

31. Claims 13 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Yamazaki



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et al. (US 20020018060; refer to as Yamazaki herein) and Paolini et al. (US 20020196257; refer to as Paolini herein).

32. Regarding claim 13, it is noted that Reinhardt does not disclose the format modification includes changing light text on a dark background. Yamazaki teaches a display device that “by displaying white color characters in a black color background, the display portion 2604 can suppress the power consumption of the portable telephone (paragraph 0240 of page 15). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Yamazaki to provide a picture of vivid colors maintaining a good balance with less consumption of power used (paragraph 0032 and 0039). Furthermore, the combination of Reinhardt and Yamazaki does not disclose changing the bold text to normal. Paolini teaches a method for text creation that modifies the thickness and style of the text characters (see paragraph 0041 and Fig. 1). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Paolini to provide the user the text with good legibility.

33. Regarding claim 35, statements presented above, with respect to claim 13 are incorporated herein.

34. Claims 18, 40, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Yasui et al. (US 5,248,963; refer to as Yasui herein).

35. Regarding claim 18, Reinhardt does not disclose binarizing the one or more graphic elements. Yasui discloses a method for erasing liquid display comprising “pixel data (a binary code representing logic ‘1’ or ‘0’)” (lines 34-37 of column 1). It would have been obvious to

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one of ordinary skill in the art to utilize the teaching of Yasui to provide a way to clear the display in a shorter time.

36. Regarding claim 45, statement presented above, with respect to claim 18 are incorporated herein. Furthermore, it is noted that the text characters and background are displayed by pixels of the display. Thus, if pixel data are in binary, the text characters and background will also be in binary data.

37. Regarding claims 40 and 46, statements presented above, with respect to claims 18 and 45 are incorporated herein.

38. Claims 19 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Choi (US 20010012005).

39. Regarding claim 19, Reinhardt does not disclose the format modification includes removing one or more of the graphic elements. Choi teaches a power saving circuit for display that "the recorded data of the pixels must be all deleted for a next sub-frame" (paragraph 0012 of page 1). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Choi to provide a power saving circuit for display (paragraph 0002 of page 1). Also, both Choi and Reinhardt are directed to a method for saving power consumed by display.

40. Regarding claim 41, statements presented above, with respect to claim 19 are incorporated herein.

41. Claims 21-22 and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reinhardt (US 5,598,565) as applied to claims 1 and 23 above, and further in view of Funyu (US 6,320,587).

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42. Regarding claim 21 and 22, Reinhardt does not disclose the information format is described in a markup language and hypertext markup language (html). Funyu discloses a font processing in network environment that "the data of the home page has the format of an HTML document written in HTML (Hyper Text Markup Language)" (lines 4-8 of column 3). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Funyu to provide the advantage of display various fonts regardless the font resources (lines 12-16 of column 4, Funyu).

43. Regarding claims 43-44, statements presented above, with respect to claims 21-22 are incorporated herein.

### *Conclusion*

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Palalau et al. (US 6,160,541)

Jankowiak (US 6,313,878)

Rolston (US 6,452,582)

### *Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Po-Wei (Dennis) Chen whose telephone number is (703) 305-8365. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (703) 305-4717. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-6743 for regular communications and (703) 308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Po-Wei (Dennis) Chen  
Examiner  
Art Unit 2697

Po-Wei (Dennis) Chen  
July 10, 2003



JOSEPH MANCUSO  
PRIMARY EXAMINER